

	Type	L #	Hits	Search Text	DBs	Time Stamp	Errors	Comments
1	BRS	L1	115005 2	glass\$3	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2003/03/15 11:35		
2	BRS	L2	145085	1 and (stir\$5)	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2003/03/15 11:36		
3	BRS	L3	76141	2 and (coat\$3)	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2003/03/15 11:36		

	E r r o r s
1	0
2	0
3	0

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition
4	BRS	L4	33271	3 and (plastic\$1)	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2003/03/15 11:37		
5	BRS	L5	2925	4 and (polytetrafluoroethylene or (PTFE))	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2003/03/15 11:39		
6	BRS	L6	2464	5 and (copper or platinum or steel or aluminum)	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2003/03/15 11:39		

	E r r o r s
4	0
5	0
6	0

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Condition
7	BRS	L7	1236	6 and (cooling or coolant)	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2003/03/15 11:42		n
8	BRS	L8	752	7 and (molten or melt)	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2003/03/15 11:53		
9	BRS	L9	116664	1 and (stirring or stirrers)	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2003/03/15 11:54		

	E r r o r s
7	0
8	0
9	0

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error
10	BRS	L10	5383	glass adj melt	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2003/03/15 11:59		n
11	BRS	L11	513	10 and (stirring or stirrer\$1)	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2003/03/15 11:54		
12	BRS	L12	2	11 and (plastic adj coat\$2)	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2003/03/15 11:57		

	E r r o r s
10	0
11	0
12	0

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition
13	BRS	L13	11	11 and (polytetrafluoroethylene or (PTFE))	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2003/03/15 12:00		
14	BRS	L14	235	11 and (stirrer or agitator or paddle)	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2003/03/15 12:00		
15	BRS	L15	8	14 and (polytetrafluoroethylene or (PTFE))	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2003/03/15 12:00		
16	IS&R	L16	587	(366/144).CCLS.	USPAT	2003/03/15 12:11		
17	IS&R	L17	590	(366/147).CCLS.	USPAT	2003/03/15 12:18		

	E r r o r s
13	0
14	0
15	0
16	0
17	0

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Condition
18	BRS	L18	278240	366/144, 147, 279.ccls.	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2003/03/15 12:19		
19	BRS	L19	4231	18 and (polytetrafluoroethylene or PTFE)	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2003/03/15 12:20		
20	BRS	L20	1290	19 and (cooling or coolant)	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2003/03/15 12:22		

	E r r o r s
18	0
19	0
20	0

	Type	L #	Hits	Search Text	DBs	Time Stamp	Error Comments
21	BRS	L21	1058	20 and (metal)	USPAT; US-PGP UB; EPO; JPO; DERWEN T; IBM_TD B	2003/03/15 12:22	n

Errors	
21	0

DERWENT-ACC-NO: 1984-037906
DERWENT-WEEK: 198407
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TITLE: Zone melting appts. for semiconductor rod, esp. silicon - using
monolithic prim. and sec. induction heating coil

INVENTOR: KELLER, W

PATENT-ASSIGNEE: SIEMENS AG[SIEI]

PRIORITY-DATA: 1982DE-3229461 (August 6, 1982)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 3229461 A	February 9, 1984	N/A	016	N/A
JP 59050090 A	March 22, 1984	N/A	000	N/A
US 4579719 A	April 1, 1986	N/A	000	N/A

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO	APPL-DATE
DE 3229461A	N/A	1982DE-3229461	August 6, 1982
JP 59050090A	N/A	1983JP-0142390	August 3, 1983

INT-CL (IPC): C30B013/20; C30B029/06 ; H01L021/02 ; H05B006/36

ABSTRACTED-PUB-NO: DE 3229461A

BASIC-ABSTRACT: The appts. uses no crucible has a high-frequency (h.f.) generator feeding a resonant circuit formed by a tank circuit coil (a) and a capacitor, and determining the generator frequency. Coil (a) forms a prim. winding for a sec. induction heating coil (b) which surrounds the rod being zone-melted. The two coils (a,b) form a monolithic unit with fixed magnetic coupling. The prim. coil (a) pref. has 2-10, esp. 4 turns, and is made from a tube through which a coolant flows. The tube is pref. Cu, Ag, or Cu coated with Ag; and a pancake coil (a) is pref. Coil (a) is pref. embedded in an energy concentrator forming coil (b). The insulation between coils (a,b) is pref. ceramic; silicon- rubber or -resin; or poly-bis-maleinimide.

A monolithic coil unit is obtd. with high- energy density and -efficiency, and simple design. Uniform heating of the rod is achieved.

ABSTRACTED-PUB-NO: US 4579719A

EQUIVALENT-ABSTRACTS: Appts. for crucible-free zone melting an end-supported semiconductor rod comprises an RF generator (1) with a resonant circuit determining generator frequency and having a tank-circuit coil (7) and capacitor (2). The generator feeds an induction heating coil (8) around the rod and the coils are formed in a single unit with the first as a prim. and the second as a sec. winding.

The coils form a structural unit with a fixed magnetic coupling, and the prim. has at least two turns of rectangular section tubes carrying cooling liquid, while the sec. is a single-turn winding acting as energy concentrator around the primary winding. Spaces between coils and turns are pref. filled with temp.-resistant ceramic, silicone rubber, silicone resin or polybismaleinimide insulation.

ADVANTAGE - has simplified heating circuitry with high energy density and high efficiency. (6pp)

CHOSEN-DRAWING: Dwg.1,2/3

TITLE-TERMS:

ZONE MELT APPARATUS SEMICONDUCTOR ROD SILICON MONOLITHIC PRIMARY SEC
INDUCTION
HEAT COIL

DERWENT-CLASS: L03 U11

CPI-CODES: L03-D02B;

EPI-CODES: U11-B;

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1984-015905

Non-CPI Secondary Accession Numbers: N1984-028753

PAT-NO: DE004142245A1

DOCUMENT-IDENTIFIER: DE 4142245 A1

TITLE: Inductor insulation mfr. used for induction heating - sand-blasts surface to roughen it, melts aluminium-oxide powder coating with plasma beam, and covers with silicon@ lacquer

PUBN-DATE: June 24, 1993

INVENTOR-INFORMATION:

NAME	COUNTRY
SCHMIDT, JOACHIM DR ING	DE
JANKE, KLAUS	DE

ASSIGNEE-INFORMATION:

NAME	COUNTRY
TRO TRANSFORMATOREN UND SCHALT	DE

APPL-NO: DE04142245

APPL-DATE: December 17, 1991

PRIORITY-DATA: DE04142245A (December 17, 1991)

INT-CL (IPC): H01B003/10;H05B006/10

EUR-CL (EPC): H01B003/10 ; H05B006/36

US-CL-CURRENT: 219/635

ABSTRACT:

The insulation for an inductor in inductive heating apparatus comprises a layer of aluminium-oxide of preset thickness, which has a covering surface formed by a flexible and heat resistant silicon-based lacquer. The outer surfaces of the hollow section of the inductor is first cleaned and roughened by sand-blasting. Then the surfaces are coated with aluminium-oxide using a powder melted by a plasma beam. At the same time, the inner surfaces of the hollow section are cooled by the passage of air or fluid. Finally, the coating is impregnated with the lacquer and heated to a certain temp. in a drying oven. ADVANTAGE -

Flexible yet relatively thin layer which is knock-resistant, manufactured in simple and inexpensive way.

Abstract (Basic): DE 4142245 A

The insulation for an inductor in inductive heating apparatus comprises a layer of aluminium-oxide of preset thickness, which has a covering surface formed by a flexible and heat resistant silicon-based lacquer. The outer surfaces of the hollow section of the inductor is first cleaned and roughened by sand-blasting. Then the surfaces are coated with aluminium-oxide using a powder melted by a plasma beam.

At the same time, the inner surfaces of the hollow section are cooled by the passage of air or fluid. Finally, the coating is impregnated with the lacquer and heated to a certain temp. in a drying oven.